

2014 Weekly Field Reports

Copacabana, King George Island

Volume 3
20 January 2014

Closing Report

On Saturday 18 January at 6 pm, we received word that we would be concluding our 2014 field season and closed Copacabana Field Station for the winter. We boarded doors and windows, secured trash for the winter, turned off all power systems, and removed materials sensitive to winter freezing. Through a miscommunication about logistics, however, our departure from Admiralty Bay will occur 21 January, as planned. But with Copa closed for the season, we are staying with colleagues at the neighboring Arctowski Field Station until the B.I.C. Humboldt can take passengers to Frei Station. We expect a 22 January departure from King George Island to Punta Arenas.

Science Report

1. Penguins

The foraging trip durations of Adélie and gentoo penguins were determined from data collected with radio transmitters. Preliminary analysis of the data suggests a mean foraging trip duration for Adélie penguins of 14 hr 12 min (7 hr 44 min SD). Gentoo penguin foraging trips were shorter at 11 hr 47 min (5 hr 59 min SD).

All seven remote cameras were tested successfully and deployed for the winter. We thank Dr. Christian Reiss for delivery of the lithium batteries for the trail cameras in the waning hours of our field season. With these cameras, we are hopeful that a full suite of photos will be taken during the forthcoming winter of the re-occupation of the colonies by breeding adults during the austral spring, and reproductive success studies in the 2014/15 season.

We collected a second diet sample from Adélie and gentoo penguins, and the first diet sample from chinstrap penguins. Diets of all three species this week consisted almost exclusively of krill, with no measureable mass of fish or invertebrate prey found. On the season, krill represented 98% of the Adélie penguin diet mass, 95% of the gentoo penguin diet, and 100% of the chinstrap penguin diet. Together, the distribution of lengths of krill obtained from the penguin diets was unimodal with a mean length of 42 ± 4.6 mm (1 SD). Evidence of fish consumption by penguins was confirmed in three of the 25 total diets; however, no measureable mass was found in any diet sample. Otoliths for identification of the fish species were only found in one gentoo diet sample.



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We concluded census work of all penguin colonies at Copacabana. We counted 3627 Adélie penguin chicks, giving a mean reproductive success of 1.12 chicks per nest. For gentoo penguins, we counted 6595 chicks, giving a mean reproductive success of 1.08 chicks per nest. We also conducted a nest and chick census of a small colony of chinstraps; though the census dates are not optimal, counts suggest that reproductive success in the small chinstrap colonies is roughly 0.77 chicks per nest.

We recovered all five satellite transmitters that had been deployed on gentoo penguins. The data await analysis.

Season-long efforts to resight banded birds yielded confirmed resightings of numerous individuals. Among adult birds banded as part of reproductive success studies, 405 unique Adélie penguins were observed. The birds were banded between one to twelve years (mean 2.6 ± 1.8 yr SD) ago. We identified 107 individual adult gentoo penguins marked as part reproductive success studies in the past, including birds banded between one and fifteen years ago (mean 3.2 ± 2.4 yr SD). Among birds banded as chicks (known-age), we identified 76 unique Adélie penguins and 80 unique gentoo penguins. Mean age of the Adélie penguins was 4.8 ± 2.3 yr (SD) and mean age of gentoo penguins was 5 ± 3.9 yrs (SD).

2. Skuas

Nest checks of the Demay and breeding territories were conducted on 16 January. We visited 31 known territories in the Demay and Uchatka vicinity. We confirmed active breeding in only one territory held by brown skuas. On the year, we recorded 31 territories attended by brown skuas, with only 14 active breeding sites. Twenty-two territories were attended by south polar skuas and none were active. We visited an additional 51 known territories in the Point Thomas, Copa, and Demay areas that were not attended by any birds. Finally, we visited territories in the Backcountry and Italian valley today (20 January) and observed no active breeding.

3. Whales and Seals

We observed a humpback mother/calf pair on 15 January. Both swam within 400 m of Copa beach.



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4. Weekly Weather

The week's weather has again been mainly sunny, dry, and breezy, with no appreciable precipitation.

The 2014 Copa Field Team, Round Two:

Jefferson Hinke (off to molt)

George Watters (fledged)

